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* * * * * * * * * * Welcome to STN International * * * * * * * * * *

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NEWS 7	SEP 09	ACD predicted properties enhanced in REGISTRY/ZREGISTRY
NEWS 8	OCT 03	MATHDI removed from STN
NEWS 9	OCT 04	CA/CAplus-Canadian Intellectual Property Office (CIPO) added to core patent offices
NEWS 10	OCT 06	STN AnaVist workshops to be held in North America
NEWS 11	OCT 13	New CAS Information Use Policies Effective October 17, 2005
NEWS 12	OCT 17	STN(R) AnaVist(TM), Version 1.01, allows the export/download of CAplus documents for use in third-party analysis and visualization tools
NEWS 13	OCT 27	Free KWIC format extended in full-text databases
NEWS 14	OCT 27	DIOGENES content streamlined
NEWS 15	OCT 27	EPFULL enhanced with additional content
NEWS 16	NOV 14	CA/CAplus - Expanded coverage of German academic research

NEWS EXPRESS	JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005
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NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 15:31:15 ON 14 NOV 2005

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 15:31:22 ON 14 NOV 2005
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STRUCTURE FILE UPDATES: 13 NOV 2005 HIGHEST RN 867336-65-0
DICTIONARY FILE UPDATES: 13 NOV 2005 HIGHEST RN 867336-65-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

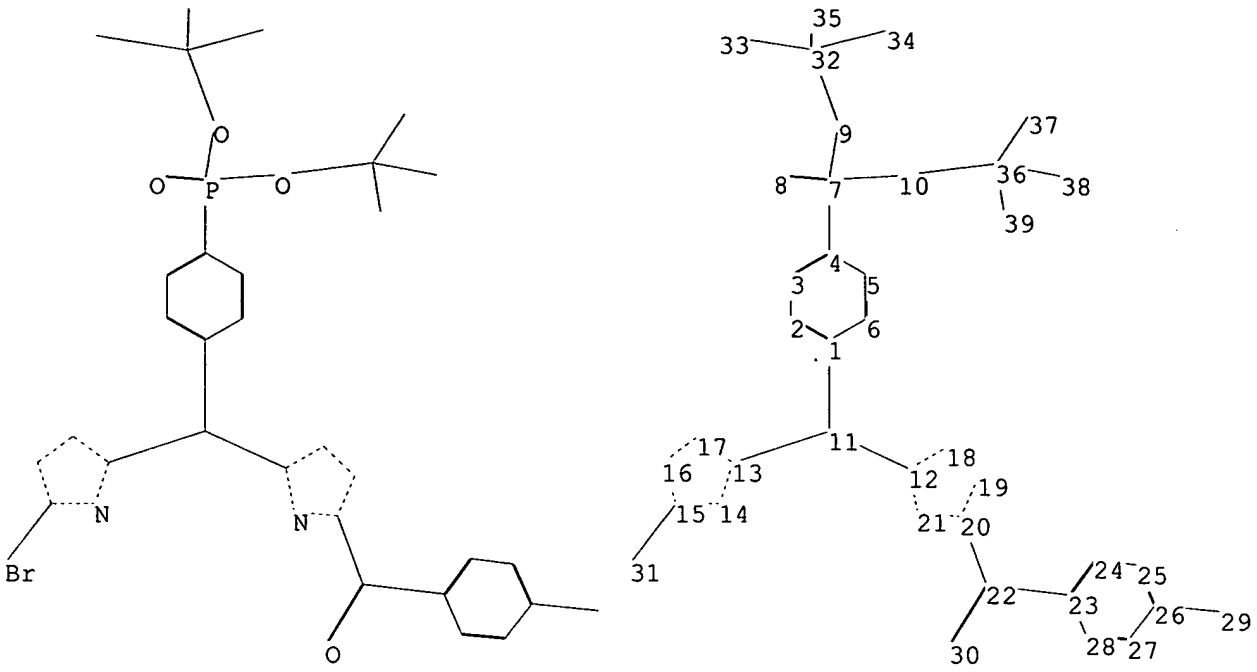
```
**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005.  A new display format, IDERL, is now     *
* available and contains the CA role and document type information.  *
*                                                                    *
**********************************************************************
```

Structure search iteration limits have been increased. See HELP SLIMITS
for details.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=>
Uploading C:\Program Files\Stnexp\Queries\10698255s.str



chain nodes :
7 8 9 10 11 22 29 30 31 32 33 34 35 36 37 38 39
ring nodes :
1 2 3 4 5 6 12 13 14 15 16 17 18 19 20 21 23 24 25 26 27 28
chain bonds :
1-11 4-7 7-8 7-9 7-10 9-32 10-36 11-12 11-13 15-31 20-22 22-23 22-30
26-29 32-33 32-34 32-35 36-37 36-38 36-39
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 12-18 12-21 13-14 13-17 14-15 15-16 16-17
18-19 19-20 20-21 23-24 23-28 24-25 25-26 26-27 27-28
exact/norm bonds :
7-8 7-9 7-10 9-32 10-36 12-18 12-21 13-14 13-17 14-15 15-16 16-17 18-19
19-20 20-21 22-30
exact bonds :
1-11 4-7 11-12 11-13 15-31 20-22 22-23 26-29 32-33 32-34 32-35 36-37
36-38 36-39
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 23-24 23-28 24-25 25-26 26-27 27-28

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom 22:CLASS 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom
29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS
37:CLASS 38:CLASS 39:CLASS

L1 STRUCTURE UPLOADED

```
=>  d
L1 HAS NO ANSWERS
L1              STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -  AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.


=> s l1
SAMPLE SEARCH INITIATED 15:31:42 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -        2 TO ITERATE

100.0% PROCESSED        2 ITERATIONS                                 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:            2 TO      124
PROJECTED ANSWERS:               0 TO        0

L2            0 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 15:31:45 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -       36 TO ITERATE

100.0% PROCESSED       36 ITERATIONS                                 1 ANSWERS
SEARCH TIME: 00.00.01

L3            1 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   161.33     161.54

FILE 'CAPLUS' ENTERED AT 15:31:48 ON 14 NOV 2005
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FILE COVERS 1907 - 14 Nov 2005  VOL 143 ISS 21
FILE LAST UPDATED: 13 Nov 2005  (20051113/ED)

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They are available for your review at:

http://www.cas.org/infopolicy.html

=> s l3
L4            2 L3

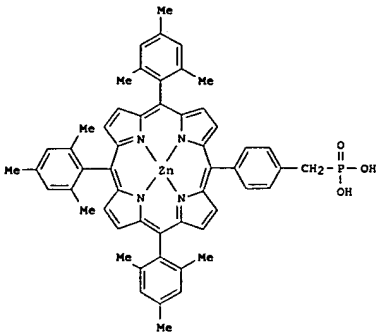
=> d ibib abs hitstr tot
```

L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:394876 CAPLUS
DOCUMENT NUMBER: 142:440857
TITLE: Synthesis of phosphono-substituted porphyrin compounds
for attachment to metal oxide surfaces
INVENTOR(S): Lindsey, Jonathan S.; Loewe, Robert S.; Muthukumaran, Kannan; Ambroise, Arounaguiry
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 29 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005096465	A1	20050505	US 2003-698255	20031031

PRIORITY APPLN. INFO.: US 2003-698255 20031031

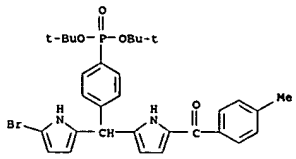
GI



I

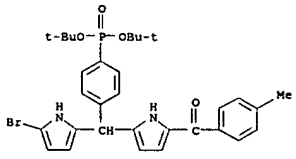
AB A method is described for making phosphono-substituted dipyrromethane derivs. comprising reacting an aldehyde or acetal having at least one phosphono group with pyrrole to produce a phosphono-substituted dipyrromethane. The phosphono substituent is selected from the group consisting of dialkyl phosphono, diaryl phosphono, and dialkylaryl phosphono. The dipyrromethane is used to prepare phosphono-substituted chlorins and porphyrins which can potentially be attached to metal oxide surfaces. Thus, zinc 5-(4-(phosphonomethyl)phenyl]-10,15,20-

L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
trimesitylporphyrin (I) was prepd. Addnl. methods, intermediates and products are also described.
IT 651302-30-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of phosphono-substituted porphyrin compds.)
RN 651302-30-6 CAPLUS
CN Phosphonic acid, [4-[(5-bromo-1H-pyrrol-2-yl)[5-(4-methylbenzoyl)-1H-pyrrol-2-yl]methyl]phenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:965574 CAPLUS
DOCUMENT NUMBER: 140:156138
TITLE: Porphyrins Bearing Arylphosphonic Acid Tethers for Attachment to Oxide Surfaces
AUTHOR(S): Muthukumaran, Kannan; Loewe, Robert S.; Ambroise, Arounaguiry; Tamaru, Shunichi; Li, Qiliang; Mathur, Guru; Bocian, David F.; Misra, Veena; Lindsey, Jonathan S.
CORPORATE SOURCE: Departments of Chemistry and Electrical and Computer Engineering, North Carolina State University, Raleigh, NC, 27695-8204, USA
SOURCE: Journal of Organic Chemistry (2004), 69(5), 1444-1452
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Synthetic mols. bearing phosphonic acid groups can be readily attached to oxide surfaces. As part of a program in mol.-based information storage, the authors have developed routes for the synthesis of diverse porphyrinic compds. bearing phenylphosphonic acid tethers. The routes enable (1) incorporation of masked phosphonic acid groups in precursors for use in the rational synthesis of porphyrinic compds. and (2) derivatization of porphyrins with masked phosphonic acid groups. The precursors include dipyrromethanes, monoacyldipyrromethanes, and diacyldipyrromethanes. The tert-Bu group was used to mask the dihydroxyphosphoryl substituent. The di-tert-butyloxyphosphoryl unit is stable to the range of conditions employed in syntheses of porphyrins and multiporphyrin arrays yet can be deprotected under mild conditions (TMS-Cl/TEA or TMS-Br/TEA in refluxing CHCl3) that do not cause demetalation of Zn or Mg porphyrins. The porphyrinic compds. that were prepared include (1) A3B-, trans-AB2C-, and ABCD-porphyrins that bear a single phenylphosphonic acid group, (2) a trans-A2B2-porphyrin bearing two phenylphosphonic acid groups, (3) a chlorin that bears a single phenylphosphonic acid group, and (4) a porphyrin dyad bearing a single phenylphosphonic acid group. For selected porphyrin-phosphonic acids, the electrochem. characteristics were studied for mols. tethered to SiO2 surfaces grown on doped Si. The voltammetric behavior indicates that the porphyrin-phosphonic acids form robust, elec. well-behaved monolayers on the oxide surface.
IT 651302-30-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of magnesium/zinc complexes with porphyrins having arylphosphonic acid tethers)
RN 651302-30-6 CAPLUS
CN Phosphonic acid, [4-[(5-bromo-1H-pyrrol-2-yl)[5-(4-methylbenzoyl)-1H-pyrrol-2-yl]methyl]phenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      10.33     171.87

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                         ENTRY    SESSION
CA SUBSCRIBER PRICE                                      -1.46      -1.46

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STRUCTURE FILE UPDATES:   13 NOV 2005  HIGHEST RN 867336-65-0
DICTIONARY FILE UPDATES:  13 NOV 2005  HIGHEST RN 867336-65-0

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TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                    *
**********************************************************************

Structure search iteration limits have been increased.  See HELP SLIMITS
for details.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=>
Uploading C:\Program Files\Stnexp\Queries\10698255.str
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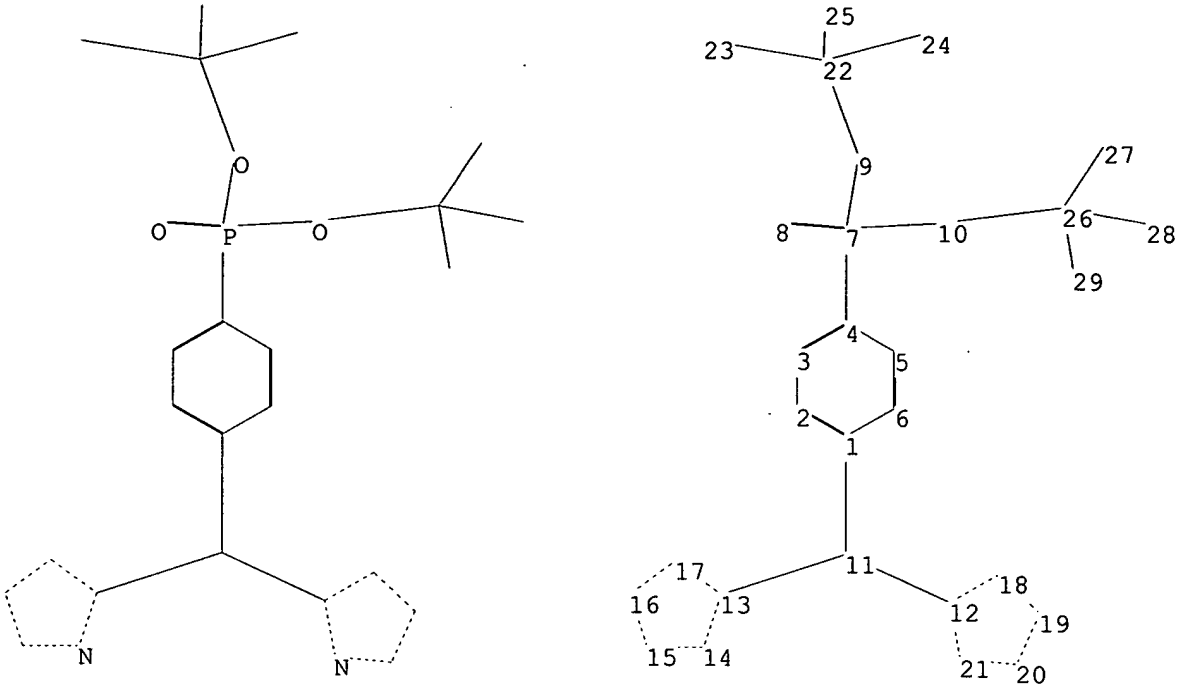


chain nodes :
7 8 9 10 11 22 23 24 25 26 27 28 29
ring nodes :
1 2 3 4 5 6 12 13 14 15 16 17 18 19 20 21
chain bonds :
1-11 4-7 7-8 7-9 7-10 9-22 10-26 11-12 11-13 22-23 22-24 22-25 26-27
26-28 26-29
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 12-18 12-21 13-14 13-17 14-15 15-16 16-17
18-19 19-20 20-21
exact/norm bonds :
7-8 7-9 7-10 9-22 10-26 12-18 12-21 13-14 13-17 14-15 15-16 16-17 18-19
19-20 20-21
exact bonds :
1-11 4-7 11-12 11-13 22-23 22-24 22-25 26-27 26-28 26-29
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6

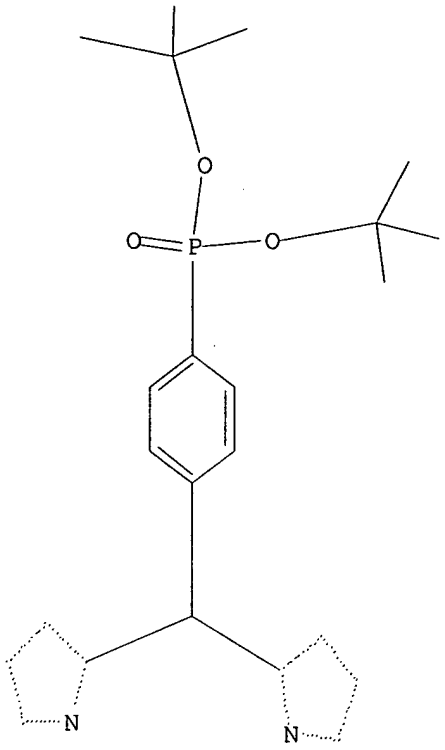
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS 27:CLASS
28:CLASS 29:CLASS

L5 STRUCTURE UPLOADED

=> dd
DD IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> d
L5 HAS NO ANSWERS
L5 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l5
SAMPLE SEARCH INITIATED 15:33:01 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 2 TO ITERATE

100.0% PROCESSED 2 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 2 TO 124
PROJECTED ANSWERS: 1 TO 80

L6 1 SEA SSS SAM L5

=> s l5 full
FULL SEARCH INITIATED 15:33:03 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 28 TO ITERATE

100.0% PROCESSED 28 ITERATIONS 4 ANSWERS
SEARCH TIME: 00.00.01

```
L7             4 SEA SSS FUL L5

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   161.76     333.63

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -1.46

FILE 'CAPLUS' ENTERED AT 15:33:06 ON 14 NOV 2005
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FILE COVERS 1907 - 14 Nov 2005  VOL 143 ISS 21
FILE LAST UPDATED: 13 Nov 2005  (20051113/ED)

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They are available for your review at:

http://www.cas.org/infopolicy.html

=> s l7
L8             2 L7

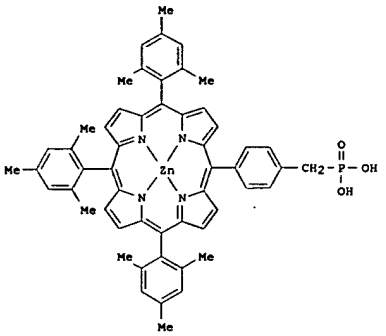
=> d ibib abs hitstr tot
```

L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:394876 CAPLUS
DOCUMENT NUMBER: 142:440857
TITLE: Synthesis of phosphono-substituted porphyrin compounds for attachment to metal oxide surfaces
INVENTOR(S): Lindsey, Jonathan S.; Loewe, Robert S.; Muthukumaran, Kannan; Ambroise, Arounaguiry
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 29 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005096465	A1	20050505	US 2003-698255	20031031

PRIORITY APPLN. INFO.: US 2003-698255 20031031

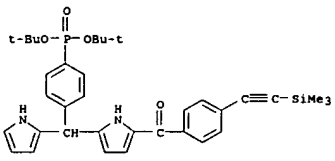
GI



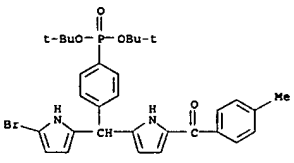
I

AB A method is described for making phosphono-substituted dipyrromethane derivs. comprising reacting an aldehyde or acetal having at least one phosphono group with pyrrole to produce a phosphono-substituted dipyrromethane. The phosphono substituent is selected from the group consisting of dialkyl phosphono, diaryl phosphono, and dialkylaryl phosphono. The dipyrromethane is used to prepare phosphono-substituted chlorins and porphyrins which can potentially be attached to metal oxide surfaces. Thus, zinc 5-{4-(phosphonomethyl)phenyl}-10,15,20-

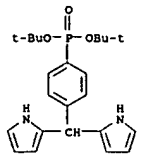
L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



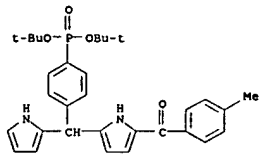
IT 651302-30-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of phosphono-substituted porphyrin compds.)
RN 651302-30-6 CAPLUS
CN Phosphonic acid, [4-[(5-bromo-1H-pyrrol-2-yl)[5-(4-methylbenzoyl)-1H-pyrrol-2-yl]methyl]phenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
trimesitylporphyrin (I) was prepd. Addnl. methods, intermediates and products are also described.
IT 651301-78-9P 651301-87-0P 651301-88-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of phosphono-substituted porphyrin compds.)
RN 651301-78-9 CAPLUS
CN Phosphonic acid, [4-(di-1H-pyrrol-2-ylmethyl)phenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

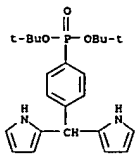


RN 651301-87-0 CAPLUS
CN Phosphonic acid, [4-[[5-(4-methylbenzoyl)-1H-pyrrol-2-yl]-1H-pyrrol-2-ylmethyl]phenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

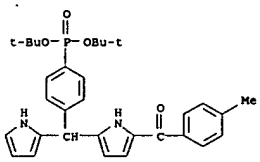


RN 651301-88-1 CAPLUS
CN Phosphonic acid, [4-[1H-pyrrol-2-yl[5-[4-[(trimethylsilyl)ethynyl]benzoyl]-1H-pyrrol-2-yl]methyl]phenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

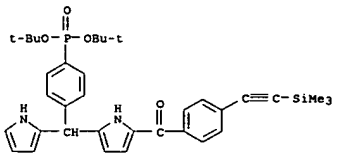
L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:965574 CAPLUS
DOCUMENT NUMBER: 140:156138
TITLE: Porphyrins Bearing Arylphosphonic Acid Tethers for Attachment to Oxide Surfaces
AUTHOR(S): Muthukumaran, Kannan; Loewe, Robert S.; Ambroise, Arounaguiry; Tamaru, Shunichi; Li, Qiliang; Mathur, Guru; Bocian, David F.; Misra, Veena; Lindsey, Jonathan S.
CORPORATE SOURCE: Departments of Chemistry and Electrical and Computer Engineering, North Carolina State University, Raleigh, NC, 27695-8204, USA
SOURCE: Journal of Organic Chemistry (2004), 69(5), 1444-1452
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Synthetic mols. bearing phosphonic acid groups can be readily attached to oxide surfaces. As part of a program in mol.-based information storage, the authors have developed routes for the synthesis of diverse porphyrinic compds. bearing phenylphosphonic acid tethers. The routes enable (1) incorporation of masked phosphonic acid groups in precursors for use in the rational synthesis of porphyrinic compds. and (2) derivatization of porphyrins with masked phosphonic acid groups. The precursors include dipyrromethanes, monoacyldipyrromethanes, and diacyldipyrromethanes. The tert-Bu group was used to mask the dihydroxyphosphoryl substituent. The di-tert-butyloxyphosphoryl unit is stable to the range of conditions employed in syntheses of porphyrins and multiporphyrin arrays yet can be deprotected under mild conditions (TMS-Cl/TEA or TMS-Br/TEA in refluxing CHCl3) that do not cause demetalation of Zn or Mg porphyrins. The porphyrinic compds. that were prepared include (1) A3B-, trans-AB2C-, and ABCD-porphyrins that bear a single phenylphosphonic acid group, (2) a trans-A2B2-porphyrin bearing two phenylphosphonic acid groups, (3) a chlorin that bears a single phenylphosphonic acid group, and (4) a porphyrin dyad bearing a single phenylphosphonic acid group. For selected porphyrin-phosphonic acids, the electrochem. characteristics were studied for mols. tethered to SiO2 surfaces grown on doped Si. The voltammetric behavior indicates that the porphyrin-phosphonic acids form robust, elec. well-behaved monolayers on the oxide surface.
IT 651301-78-9P 651301-87-0P 651301-88-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reactant for preparation of zinc/magnesium complexes with porphyrins having arylphosphonic acid tethers)
RN 651301-78-9 CAPLUS
CN Phosphonic acid, [4-(di-1H-pyrrol-2-ylmethyl)phenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



RN 651301-87-0 CAPLUS
CN Phosphonic acid, [4-[[5-(4-methylbenzoyl)-1H-pyrrol-2-yl]-1H-pyrrol-2-ylmethyl]phenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

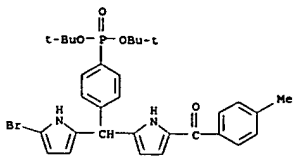


RN 651301-88-1 CAPLUS
CN Phosphonic acid, [4-[1H-pyrrol-2-yl[5-[4-[(trimethylsilyl)ethynyl]benzoyl]-1H-pyrrol-2-yl]methyl]phenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



IT 651302-30-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of magnesium/zinc complexes with porphyrins having arylphosphonic acid tethers)
RN 651302-30-6 CAPLUS
CN Phosphonic acid, [4-[(5-bromo-1H-pyrrol-2-yl)[5-(4-methylbenzoyl)-1H-pyrrol-2-yl]methyl]phenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX

NAME)



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